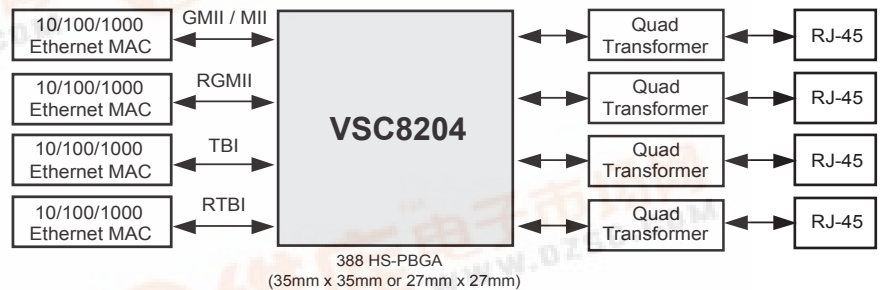
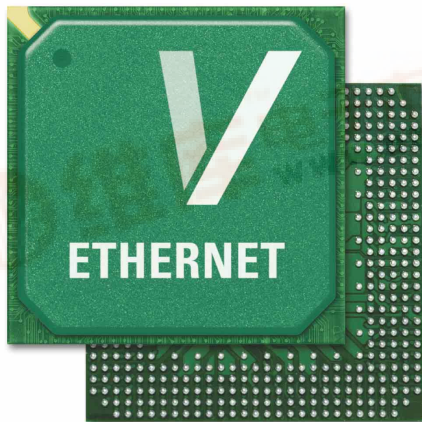


VSC8204

VITESSE

Quad Port 10/100/1000BASE-T PHY with R/GMII, R/TBI Interfaces



FEATURES:

- ▶ Four, Triple Speed (10/100/1000BASE-T) Transceivers in a Single 388-Pin Thermally Enhanced HS-PBGA Package
- ▶ 1000BASE-T Power Consumption of <1W per Port
- ▶ Integrated Series Termination Resistors on MAC Interface Pins
- ▶ Integrated RGMII Timing Compensation Eliminates PCB Design Challenges
- ▶ VeriPHY™ Cable Diagnostics Software Suite
- ▶ Fully IEEE 802.3, 802.3u (10BASE-T, 100BASE-TX) & 802.3ab (1000BASE-T) Compliant
- ▶ Automatic Detection and Correction of Cable Pair Swaps, Pair Skew, and Pair Polarity, Along with Auto MDI/MDI-X Crossover Function
- ▶ Choice of Standard GMII/MII or TBI, or Pin Saving RGMII/RTBI Interfaces
- ▶ Optional, Integrated Oscillator Circuit
- ▶ >10KB Jumbo Frame Support with Programmable Synchronization FIFOs
- ▶ Manufactured in Mainstream, 3.3V / 1.5V Digital CMOS process

BENEFITS:

- ▶ Enables Widespread, Low Cost, 1000BASE-T Deployment in Gigabit Ethernet and Switches
- ▶ Eliminates Expensive Fans and Heat Sinks
- ▶ Improves Signal Integrity, Reduces EMI, and Eliminates More Than 600 External Components in 48-port Switch Blade Applications
- ▶ Decreases Board Design Efforts, Increases PCB Timing Margins and Yields, and Shortens Time-to-market
- ▶ Enables Network Manufacturers to Simplify Deployment and Improve Network Management Capabilities of Gigabit Ethernet Links
- ▶ Ensures Seamless Deployment Throughout Category-5 Networks
- ▶ Compatible with 1st Generation 1000BASE-T PHYs, Allowing Trouble Free Migration to 1000BASE-T by Minimizing Common Interoperability Problems
- ▶ Compatible with a Wide Variety of MACs and Switches
- ▶ Supports Single Low Cost 25MHz Crystal, or Either a 25MHz or 125MHz Standard Reference Clock Input
- ▶ Provides Support for Maximum Jumbo Frame Sizes in Custom LAN and SAN Systems
- ▶ Cost Effective Manufacturing Process Eliminates Expensive Analog Process Variants

APPLICATIONS:

- ▶ Desktop LAN and SAN Switches with High Density 10/100/1000BASE-T Ports
- ▶ Workgroup & Campus Switches, Routers
- ▶ High Performance, Multi-port Server NICs



VSC8204

Quad Port 10/100/1000BASE-T PHY with R/GMII, R/TBI Interfaces

GENERAL DESCRIPTION:

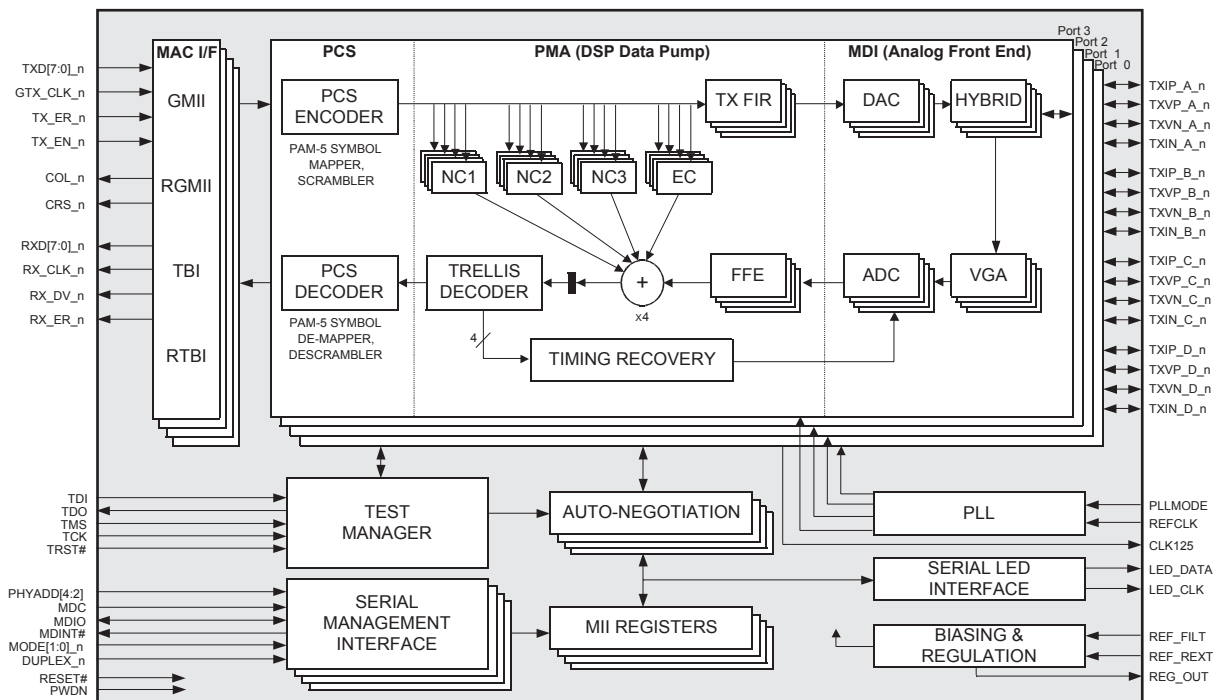


The VSC8204 is a low power, low cost, quad port Gigabit Ethernet PHY. It is ideal for Gigabit Ethernet Switch applications that require a GMII/MII, RGMII, TBI, or RTBI MAC / Switch interface. Vitesse's proprietary DSP technology yields robust performance and low power consumption, supporting 1000BASE-T over unshielded twisted pair (UTP) cable, with more than 5dB of design margin with respect to all worst-case impairments (NEXT, FEXT, Echo, and system noise sources).

SPECIFICATIONS:

PARAMETER	TYP	UNIT	COMMENTS
P_D	<1	W	Steady state power consumption (1000BASE-T mode)
L_{1G}, L_{100M}	>140	m	Cable link length supported in 1000BASE-T & 100BASE-TX modes, over Category 5 cable
L_{10M}	180	m	Cable link length supported in 10BASE-T mode, over Category 3 cable
VDDIO	3.3	V	Digital I/O and Analog Core power supply voltage
VDDDIG	1.5	V	Digital and Analog Core power supply voltage
$F_{TOL (REFERENCE)}$	25	MHz	Crystal parallel resonant frequency (+/- 100ppm tolerance)

BLOCK DIAGRAM:



For more information on Vitesse Products visit the Vitesse web site at www.vitesse.com or contact Vitesse Sales at (800) VITESSE or sales@vitesse.com

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